

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

**Recreation Trail and Walkway
(FT)
No. 568**

Definition

A pathway prepared especially for pedestrian, equestrian, and cycle travel.

Purpose

To provide users of recreation areas with travel routes for activities such as walking, sightseeing, horseback riding, and bicycling; to prevent erosion; and to preserve and protect soil, plant, animal, and visual resources.

Conditions Where Practice Applies

This practice applies to lands where prepared paths, trails, and walkways are needed for effective and safe use of the recreation resources.

Federal, State, and Local Laws¹

Design and construction activities shall comply with all federal, state, and local laws, rules, and regulations governing pollution abatement, health, and safety. The owner or operator shall be responsible for securing all required permits or approvals and for performing in accordance with such laws and regulations. NRCS employees are not to assume responsibility for procuring these permits, rights, or approvals, or for enforcing laws and regulations. NRCS may provide the landowner or operator with technical information needed to obtain the required rights or approvals to construct, operate, and maintain the practice.

Permits may be required from the following agencies:

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1. West Virginia Department of Health

2. West Virginia Department of Agriculture

Planning Considerations

Water Quantity

1. Impact of impervious walkways and trails on increased surface runoff.

2. Changes in deep percolation with increased surface runoff. Consider evaporation losses before infiltration, evapotranspiration changes with decreased infiltration, and average changes in root zone storage.

Water Quality

1. Change in ground water quality caused by decreased dissolved chemical infiltration.

2. Potential changes in erosion and sediment yield caused by increased runoff and temporary increases in erosion during construction.

3. Effects of dissolved chemicals in runoff resulting from recreation activities.

Design Considerations

Trails and walkways shall be planned as an integral part of the overall recreational development and will conform to the needs for such practice. A reconnaissance survey shall be made after full advantage has been taken of soil survey, topographic, and aerial maps. A tentative layout of the practice may be made from such documents. The field reconnaissance shall include an examination of the terrain, points of interest, and natural

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surroundings. *The final layout or location should consider the items listed below:*

- 1.** *Suitability as prepared backfire line or firebreak.*
- 2.** *Access to other recreational facilities or developments.*
- 3.** *Access to interesting features and attractive scenery.*
- 4.** *Suitability as a nature trail to observe natural flora, geology, or animal life.*
- 5.** *The length versus time for walking, cycling, and equestrian use.*
- 6.** *The avoidance of areas of poorly drained or clayey soils to the extent possible unless wetland constitutes a major feature of the trail in which case boardwalks and bridges may be required.*
- 7.** *The protection of fish and wildlife values.*
- 8.** *The overall shape will depend upon many factors. Generally, it should be in the form of a loop or figure eight for nature trails. Straight sections (tangents) shall be held to a minimum. Generally, it shall be winding.*

Design Criteria

Visual resources. Special attention shall be given to saving and maintaining key trees and other vegetation that have scenic value, provide shade, reduce erosion and runoff, provide den and food for wildlife, or add to the visual quality of the area.

Grade. Sustained grades shall be dictated by good judgement for the purpose intended, considering the topography, and shall not exceed 10 percent.

Grades of up to 15 percent may be used for short sections of trail. Steps or rest areas shall be provided if grades exceed 15 percent.

Width. Generally, the minimum tread width shall be 4 ft. The width in cuts for pedestrian trails on sidehill sections may be reduced to 3 ft

if a greater width would increase the cost materially or adversely affect the visual resources.

For equestrian and cycle trails, optimum widths are 8 to 12 feet with a height clearance of 10 to 12 feet.

Side slopes. Cut and fill slopes shall be stable for the soil or soil material.

Drainage. Adequate drainage shall be provided. A raised or elevated trail or walkway may be required for wet sites than cannot be drained.

Adequate surface drainage shall be provided by means of side ditches, diversions, culverts, and grade dips. Closed drains shall be provided as needed for control of springs, seeps and high water table. The tread shall have a cross slope of not less than 1/2 inch per foot of width in the direction of best drainage and erosion control.

Erosion control. Plans shall include provision for control of erosion. Disturbed areas shall be established to vegetation as soon as practicable after construction. If soil or climatic conditions preclude the use of vegetation, and protection is needed, nonvegetative means, such as mulches or gravel, may be used. Seedbed preparation, seeding, fertilizing, and mulching shall comply with recommendations in technical guides.

Bridges. Bridges shall be designed for the maximum expected loading with an adequate factor of safety.

Bridges will be installed where required in accordance with a design prepared for the individual site and type of usage. Type of bridge material (such as timber or rock) shall conform to the natural setting, where possible. They will be designed for the maximum expected loading, but not less than 100 lbs. per square foot.

Surfacing. If surfacing is required for a firm trail, the surfacing material may be pit or creek-run gravel, concrete, asphalt, or other material that can withstand the traffic and the elements at the site.

When paving or surfacing is required, the following standards apply:

1. Surfacing with gravel or other approved material, no base course.

a. The durable materials shall be cinders, pit or creek-run gravel, washed gravel, crushed stone, slag, or select, durable shales.

b. Generally, the diameter of the durable aggregates shall not exceed 1/2 inch.

c. The minimum thickness of the treatment shall be two inches.

d. Non-durable material such as sawdust or tanbark may be used if the plan calls for periodic renewal of the surfacing.

2. Paving, with a compacted base course of crushed stone, gravel or other approved material, with bituminous surface treatment or concrete. Such paving should be limited to heavily used areas and building entrances.

a. Base Course

The base course shall be in accordance with the standards and specifications for Access Roads except the minimum thickness of the course shall be four (4) inches.

b. Bituminous Surface Treatment

The bituminous surface treatment shall be in accordance with the standards and specifications for Access Roads.

c. Concrete Surfacing

The quality and thickness of the concrete surface and the spacing and size of reinforcing steel shall be appropriate for the expected loading and in accordance with sound engineering practice. Concrete shall have a minimum thickness of four inches with one layer of 6" x 6" eight gage welded wire fabric reinforcement.

Steps where needed will be designed and installed in accordance with the

requirements of the site. Rise and tread width of steps should be approximately 8 inches and 12 inches respectively. However, rise shall be no greater than 12 inches and tread width shall be no less than 8 inches. Stone should be used where possible.

Safety. Due consideration shall be given to safety. Protection from slides and falling rocks shall be provided, if needed. Adequate directional and warning signs, handrails, bridges, and culverts shall be placed as dictated by the site and intended use.

Switchbacks shall be avoided, where practical. If they become necessary, a stone wall or row of shrubs should separate the segments above and below the curve to prevent cross cutting and to protect travelers on the lower side of the curve from stone dislodged by travelers on the trail above.

The minimum sight distance for equestrian and cycle trails shall be fifty (50) feet.

General. Equestrian and pedestrian trails may vary from specific grades, widths, and clearing requirements if so dictated by location and topography.

Plans and Specifications

Plans and specifications for constructing recreation trails and walkways shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose.

Operation and Maintenance

The operation and maintenance plan shall be developed that is consistent with the purpose of the trail, its intended life, safety requirements, and design criteria. Unsurfaced trails shall be graded periodically to maintain a uniform surface and to facilitate drainage.

Gravel trails shall be graded and additional gravel added as needed to maintain the original cross section. Paved trails shall be maintained by patching potholes and

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deteriorated surfaces with original material. Trails shall be resurfaced as needed.

Ditches and drainage structures shall be checked regularly to insure that they do not become clogged with silt or debris. Silt and debris shall be removed as needed to maintain the original capacity.

Seeded areas adjacent to the trail shall be checked periodically to insure that a vigorous stand of vegetation is maintained.

¹Bold italics is information added to the National standard by West Virginia

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE GENERAL SPECIFICATIONS**

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Walkways and trails shall be constructed to a planned grade and cross section. All drainage structures and surfacing shall be installed according to plans and detailed specifications. Safety features, including signs, guardrails, safety fences at key locations, and removal of existing fences, shall be according to the plans.

Construction operations shall be carried out in such a manner that erosion and air and water pollution are minimized and held within legal limits.

The completed job shall present a workmanlike finish.

All trees, shrubs, fallen logs and other undesirable material shall be removed from the cleared travelway as specified in the plans. Stumps shall be cut close to the ground. All protruding limbs shall be removed for a distance of one foot beyond the tread limits; and to a minimum height of 10 feet, if other than foot traffic is expected.

All undesirable material such as soil high in organic matter, stumps and large protruding stones shall be removed from the tread areas of the trail or walkway.

Material will be disposed of in such a manner that it will not be unsightly. Burning, burying, or removal from site are alternative methods of disposal.

All materials for use in a structure will conform to the applicable specifications.

If the existing ground surface provides a suitable tread for the trail or walkway, it will be left undisturbed.

Vegetation shall be established in accordance with the site conditions and as shown in the plan.